Exhibit No. 1

NORTH SHORE GAS COMPANY

WAUKEGAN, ILLINOIS

DEPRECIATION STUDY
RELATED TO GAS PLANT AT DECEMBER 31, 1999

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, INC.

HARRISBURG, PENNSYLVANIA

NORTH SHORE GAS COMPANY
Waukegan, Illinois

DEPRECIATION STUDY

RELATED TO GAS PLANT AT DECEMBER 31, 1999

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, INC.

Harrisburg, Pennsylvania

Gannett Fleming

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August 14, 2000

North Shore Gas Company
3001 Grand Avenue
Waukegan, IL 60085

Attention Mr. James M. Leubbers
Chief Financial Officer

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the gas plant of North Shore Gas Company as of December 31, 1999. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual depreciation accrual rates, the statistical support for the life estimates and the detailed tabulations of annual depreciation.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, INC.

William M. Stout

WILLIAM M. STOUT, P.E.
President

John J. Spanos

JOHN J. SPANOS
Manager, Depreciation and Valuation Studies

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PART I. INTRODUCTION

NORTH SHORE GAS COMPANY

DEPRECIATION STUDY
RELATED TO GAS PLANT AT DECEMBER 31, 1999

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for North Shore Gas Company (the Company) as applied to gas plant in service as of December 31, 1999. It relates to the concepts, methods and basic judgments which underlie recommended annual depreciation accrual rates related to current gas plant in service.

The service life estimates resulting from the study were based on informed judgment which incorporated analyses of historical plant retirement data as recorded through 1999; a review of Company practice and outlook as they relate to plant operation and retirement; and consideration of current practice in the gas industry, including knowledge of service life estimates used for other gas properties.

PLAN OF REPORT

Part I, Introduction, includes brief statements of the scope and basis of the study. Part II presents descriptions of the methods used in the service life study and the methods and procedures used in the calculation of depreciation. Part III presents the results of the study, including summary tables, survivor curve charts and life tables resulting from the retirement rate method of analysis, and detailed tabulations of the calculated remaining lives and annual accruals.

BASIS OF STUDY

Depreciation

For each account and subaccount, i.e., depreciable group, the annual depreciation was calculated by the straight line method using the average service life procedure and the remaining life basis. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life characteristics of each depreciable group.

Service Life Estimates

The average service life estimates were based on informed judgment which incorporated analyses of available historical service life data related to the property, a review of management's current plans and operating policies, and a general knowledge of service lives experienced and estimated in the gas industry. The use of survivor curves to reflect the expected dispersion of retirements provides a consistent method of estimating depreciation for utility property. Iowa type survivor curves were used to depict the estimated survivor curves for the plant account property groups.

The procedure for estimating service lives consisted of compiling historical data for the depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data analyses and the probable future. The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived.

The Company's service life estimates used in the depreciation calculation incorporated historical data compiled through 1999 from the property records of the

Company. Such data included plant additions, retirements, transfers and other activity. Generally, retirement data for the years 1963 through 1999 were used in the actuarial life table computations which were the primary statistical support of the service life estimates.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was obtained through a field trip conducted during the course of the service life study. Discussions with operating and management personnel also provided information regarding plans for the future which was incorporated in the interpretation and extrapolation of the statistical analyses.

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

DEPRECIATION

Depreciation, in public utility regulation, is the loss in service value not restored by current repairs or covered by insurance.

Depreciation, as used in accounting, is a method of distributing fixed capital costs over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the straight line method of depreciation.

The calculation of annual depreciation based on the straight line method requires the estimation of average life. This subject is discussed in the sections which follow.

SERVICE LIFE ESTIMATION

Average Service Life

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages. A discussion of the general concept of survivor curves is presented. Also, the Iowa type survivor curves are reviewed.

Survivor Curves

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1 the remaining life at age 30 years is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval and is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

Iowa Type Curves. The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded or L curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded or S curves, presented in Figure 3, are those

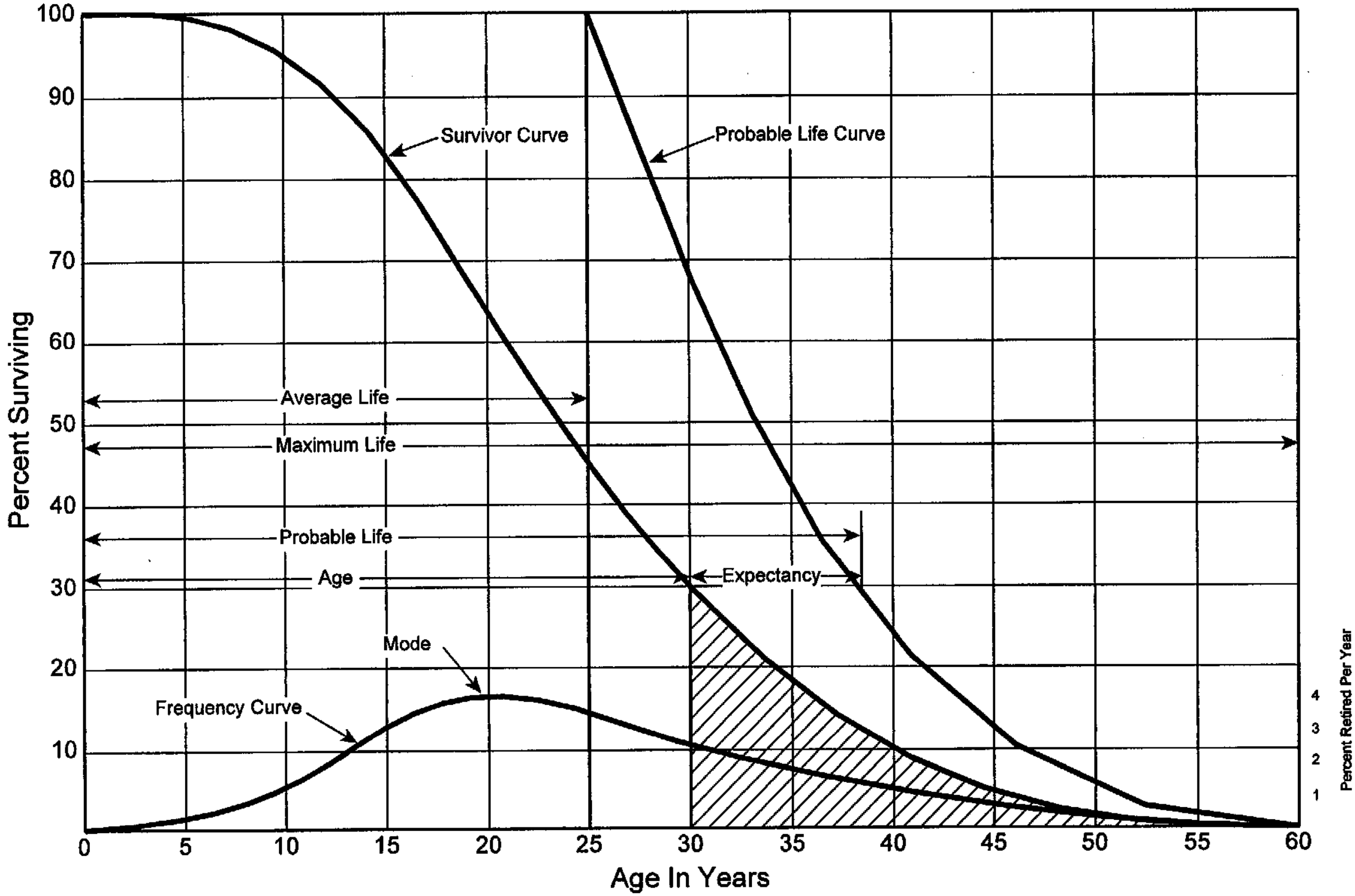

Figure 1. A Typical Survivor Curve and Derived Curves

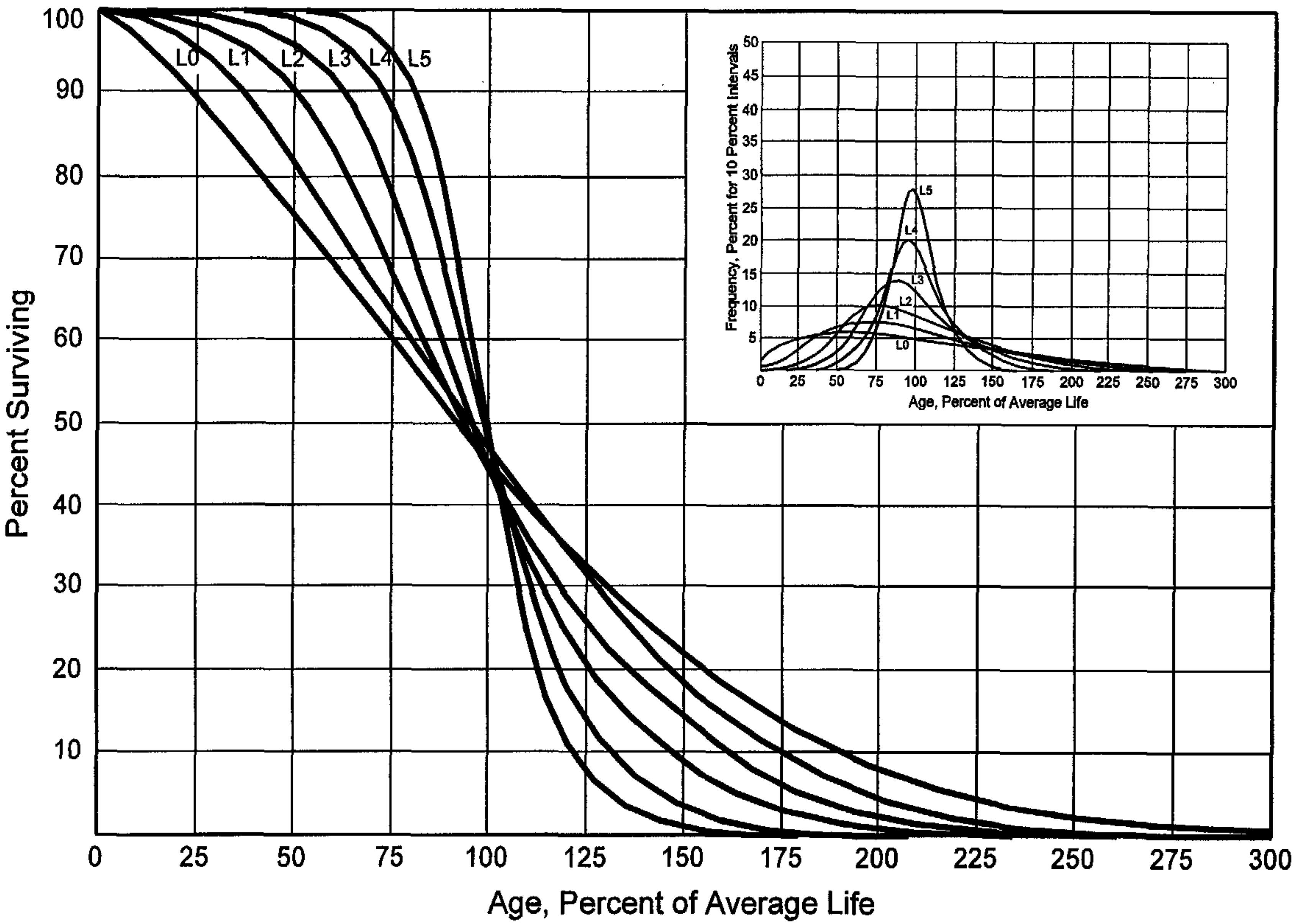

Figure 2. Left Modal or "L" Iowa Type Survivor Curves

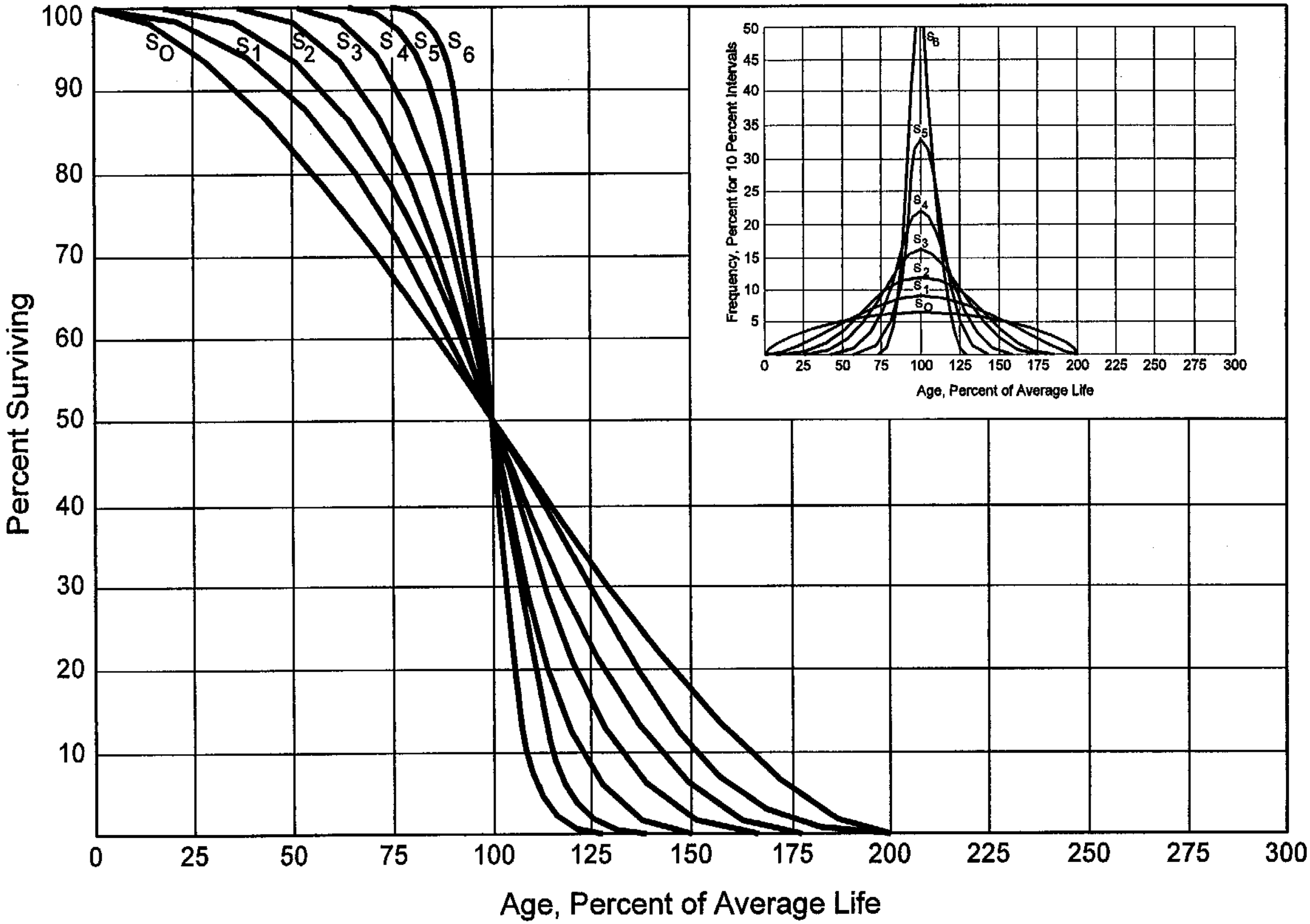

Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

in which the greatest frequency of retirement occurs at average service life. The right moded or R curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded or O curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numerical subscripts represent the relative heights of the modes of the frequency curves within each family.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.[1] These type curves have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."[2] In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis[3] presenting his development of the fourth family consisting of the four O type survivor curves.

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[1]Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

[2]Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

[3]Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.

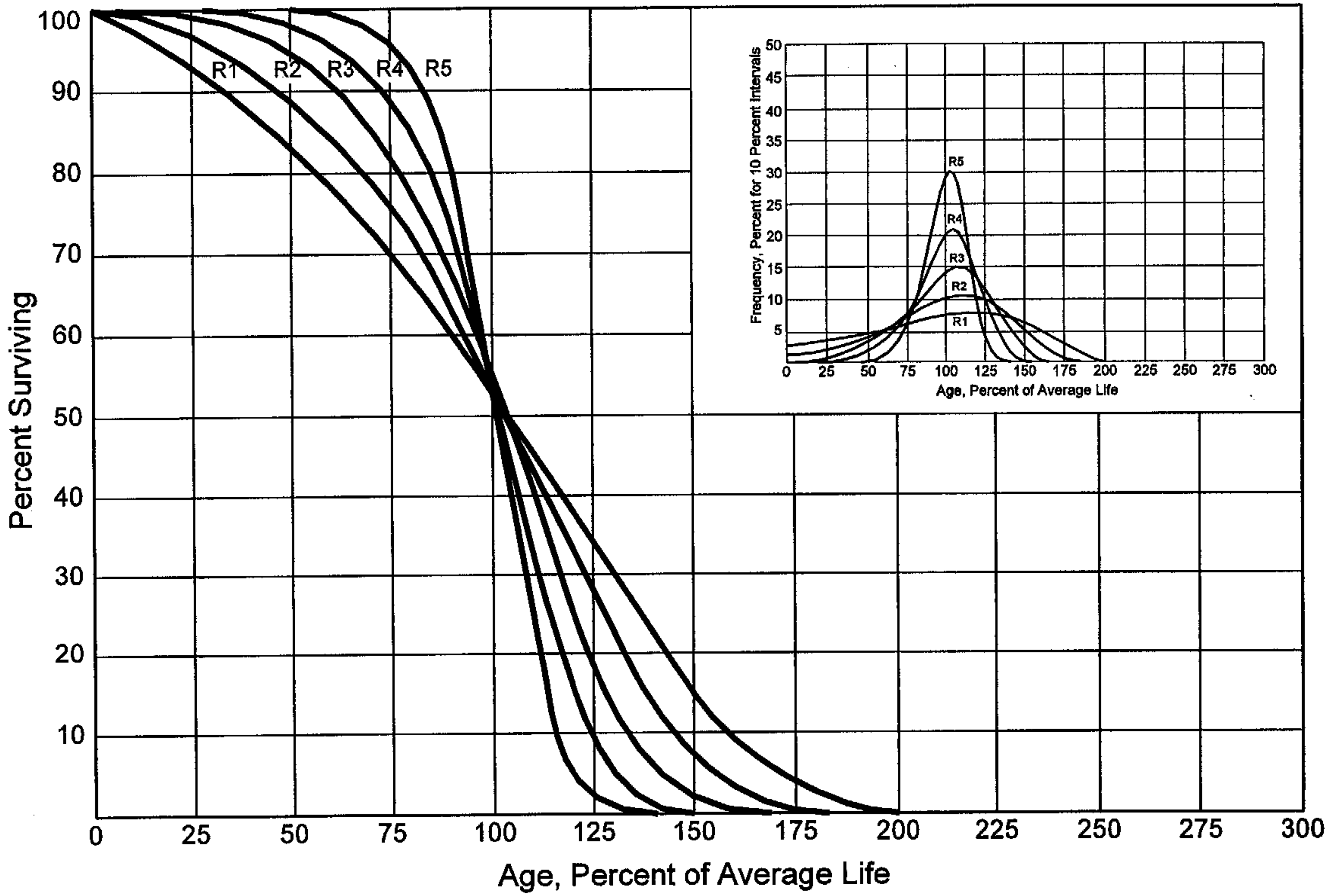

Figure 4. Right Modal or "R" Iowa Type Survivor Curves

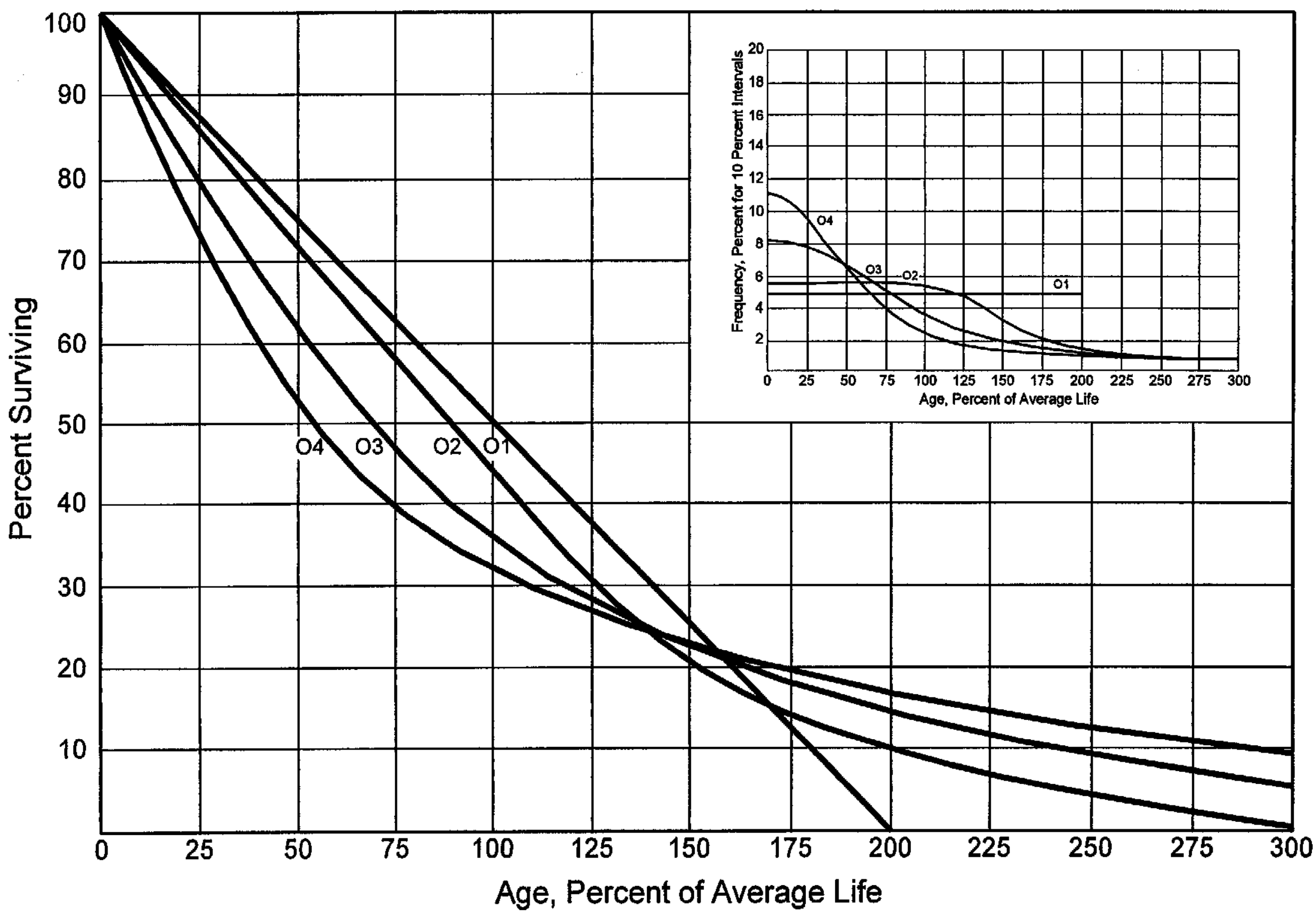

Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

In addition to the 22 curves developed from empirical data, "half-mode" curves also are used. Half-mode curves are averages of two Iowa curves, e.g., the percents surviving of the R2.5 represent the average of the percents surviving of the R2 and the R3.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available or for which aged accounting experience is developed by statistically aging unaged amounts and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"[4] "Engineering Valuation and Depreciation,"[5] and "Depreciation Systems."[6]

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginnings of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations

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[4]Winfrey, Robley, Supra Note 1.

[5]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

[6]Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994

used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table, and illustrations of smoothing the stub survivor curve.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 1990-1999 during which there were placements during the years 1985-1999. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-12 and II-13. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $10,000 of the dollars invested in 1985 were retired in 1990. The $10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Table 1 immediately above the stairstep line drawn on the table beginning with the 1990 retirements of 1985 installations and ending with the 1999 retirements of the 1994 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$

TABLE 1. RETIREMENTS FOR EACH YEAR 1990 -1999

SUMMARIZED BY AGE INTERVAL

Experience Band 1990-1999

Placement Band 1985-1999

Year Placed (1)	Retirements, Thousands of Dollars During Year 1990 (2)	1991 (3)	1992 (4)	1993 (5)	1994 (6)	1995 (7)	1996 (8)	1997 (9)	1998 (10)	1999 (11)	Total During Age Interval (12)	Age Interval (13)
1985	10	11	12	13	14	16	23	24	25	26	26	13½-14½
1986	11	12	13	15	16	18	20	21	22	19	44	12½-13½
1987	11	12	13	14	16	17	19	21	22	18	64	11½-12½
1988	8	9	10	11	11	13	14	15	16	17	83	10½-11½
1989	9	10	11	12	13	14	16	17	19	20	93	9½-10½
1990	4	9	10	11	12	13	14	15	16	20	105	8½-9½
1991		5	11	12	13	14	15	16	18	20	113	7½-8½
1992			6	12	13	15	16	17	19	19	124	6½-7½
1993				6	13	15	16	17	19	19	131	5½-6½
1994					7	14	16	17	19	20	143	4½-5½
1995						8	18	20	22	23	146	3½-4½
1996							9	20	22	25	150	2½-3½
1997								11	23	25	151	1½-2½
1998									11	24	153	½-1½
1999	—	—	—	—	—	—	—	—	—	13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

TABLE 2. OTHER TRANSACTIONS FOR EACH YEAR 1990-1999

Experience Band 1990-1999 | SUMMARIZED BY AGE INTERVAL | Placement Band 1985-1999

Year Placed (1)	Acquisitions, Transfers and Sales, Thousands of Dollars — During Year 1990 (2)	1991 (3)	1992 (4)	1993 (5)	1994 (6)	1995 (7)	1996 (8)	1997 (9)	1998 (10)	1999 (11)	Total During Age Interval (12)	Age Interval (13)
1985	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
1986	-	-	-	-	-	-	-	-	-	-	-	12½-13½
1987	-	-	-	-	-	-	-	-	-	-	-	11½-12½
1988	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
1989	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
1990		-	-	-	-	-	-	-	-	-	(5)	8½-9½
1991		-	-	-	-	-	-	-	-	-	6	7½-8½
1992			-	-	-	-	-	-	-	-	-	6½-7½
1993				-	-	-	-	(12)[b]	-	-	-	5½-6½
1994					-	-	-	-	22[a]	-	-	4½-5½
1995						-	-	(19)[b]	-	-	10	3½-4½
1996							-	-	-	-	-	2½-3½
1997								-	-	(102)[c]	(121)	1½-2½
1998									-	-	-	½-1½
1999	—	—	—	—	—	—	—	—	—	—	-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

[a] Transfer Affecting Exposures at Beginning of Year
[b] Transfer Affecting Exposures at End of Year
[c] Sale with Continued Use
Parentheses denote Credit amount.

In Table 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15.

The surviving plant at the beginning of each year from 1990 through 1999 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 1995 are calculated in the following manner:

Exposures at age 0 = amount of addition	= $750,000
Exposures at age ½ = $750,000 - $ 8,000	= $742,000
Exposures at age 1½ = $742,000 - $18,000	= $724,000
Exposures at age 2½ = $724,000 - $20,000 - $19,000	= $685,000
Exposures at age 3½ = $685,000 - $22,000	= $663,000

TABLE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 1990-1999
SUMMARIZED BY AGE INTERVAL

Experience Band 1990-1999

Placement Band 1985-1999

Year Placed (1)	Exposures, Thousands of Dollars: Annual Survivors at the Beginning of the Year 1990 (2)	1991 (3)	1992 (4)	1993 (5)	1994 (6)	1995 (7)	1996 (8)	1997 (9)	1998 (10)	1999 (11)	Total at Beginning of Age Interval (12)	Age Interval (13)
1985	255	245	234	222	209	195	239	216	192	167	167	13½-14½
1986	279	268	256	243	228	212	194	174	153	131	323	12½-13½
1987	307	296	284	271	257	241	224	205	184	162	531	11½-12½
1988	338	330	321	311	300	289	276	262	242	226	823	10½-11½
1989	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
1990	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
1991		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
1992			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
1993				580[a]	574	561	546	530	501	482	3,057	5½-6½
1994					660[a]	653	639	623	628	609	3,789	4½-5½
1995						750[a]	742	724	685	663	4,332	3½-4½
1996							850[a]	841	821	799	4,955	2½-3½
1997								960[a]	949	926	5,719	1½-2½
1998									1,080[a]	1,069	6,579	½-1½
1999										1,220[a]	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

[a] Additions during the year.

For the entire experience band 1990-1999, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Table 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.

<u>Original Life Table</u>. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15					
Exposures at age 4½	=	3,789,000					
Retirements from age 4½ to 5½	=	143,000					
Retirement Ratio	=	143,000	÷	3,789,000	=	0.0377	
Survivor Ratio	=	1.000	-	0.0377	=	0.9623	
Percent surviving at age 5½	=	(88.15)	x	(0.9623)	=		84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

TABLE 4. ORIGINAL LIFE TABLE
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 1990-1999 Placement Band 1985-1999

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval (1)	Exposures at Beginning of Age Interval (2)	Retirements During Age Interval (3)	Retirement Ratio (4)	Survivor Ratio (5)	Percent Surviving at Beginning of Age Interval (6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
14.5					35.66
Total	44,780	1,606			

Column 2 from Table 3, Column 12, Plant Exposed to Retirement.
Column 3 from Table 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 Divided by Column 2.
Column 5 = 1.0000 Minus Column 4.
Column 6 = Column 5 Multiplied by Column 6 of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Table 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve. The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100 percent to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Table 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0. In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be

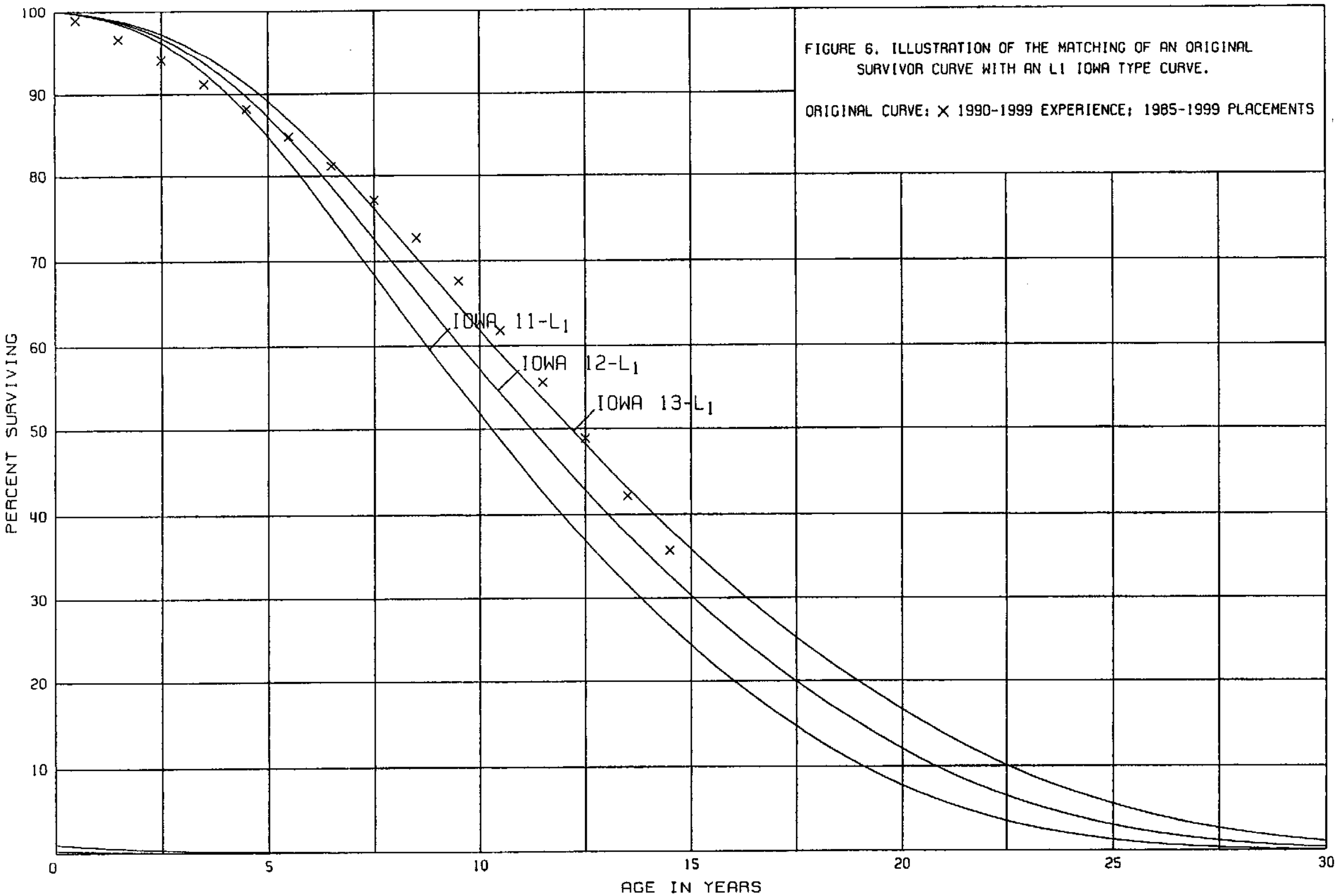

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE.

ORIGINAL CURVE: × 1990-1999 EXPERIENCE; 1985-1999 PLACEMENTS

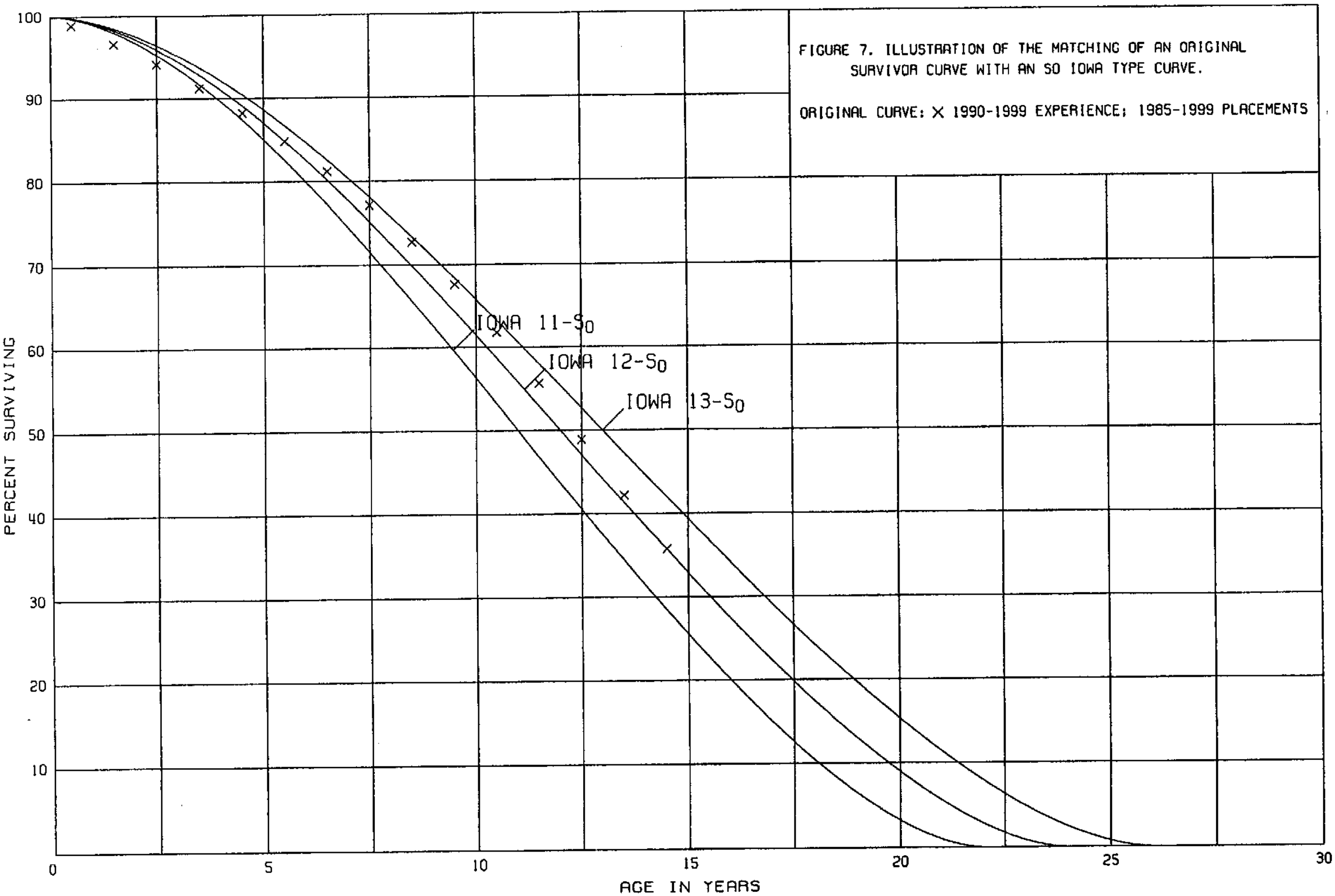

FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE.

ORIGINAL CURVE: X 1990-1999 EXPERIENCE; 1985-1999 PLACEMENTS

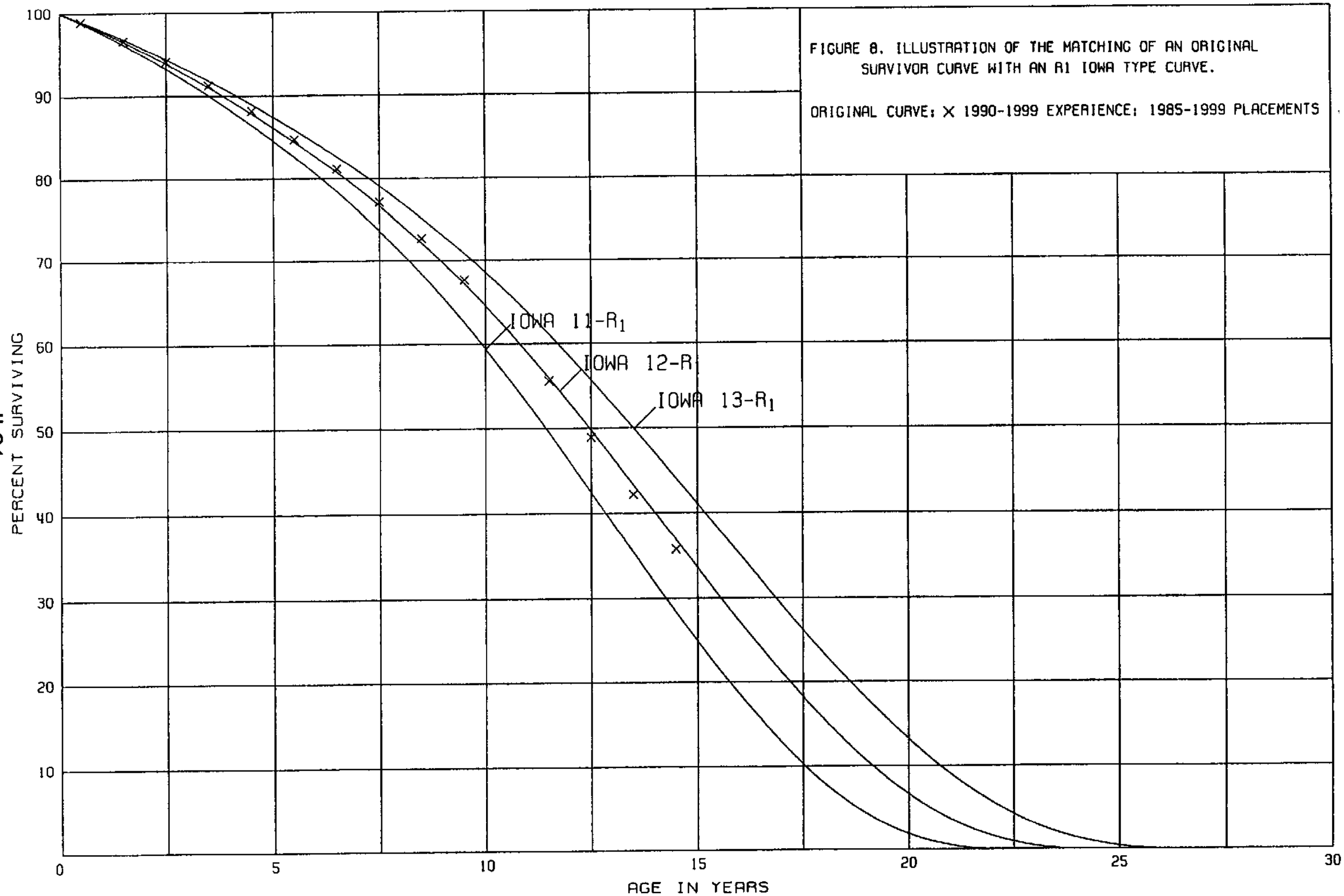

FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE.

ORIGINAL CURVE: X 1990-1999 EXPERIENCE: 1985-1999 PLACEMENTS

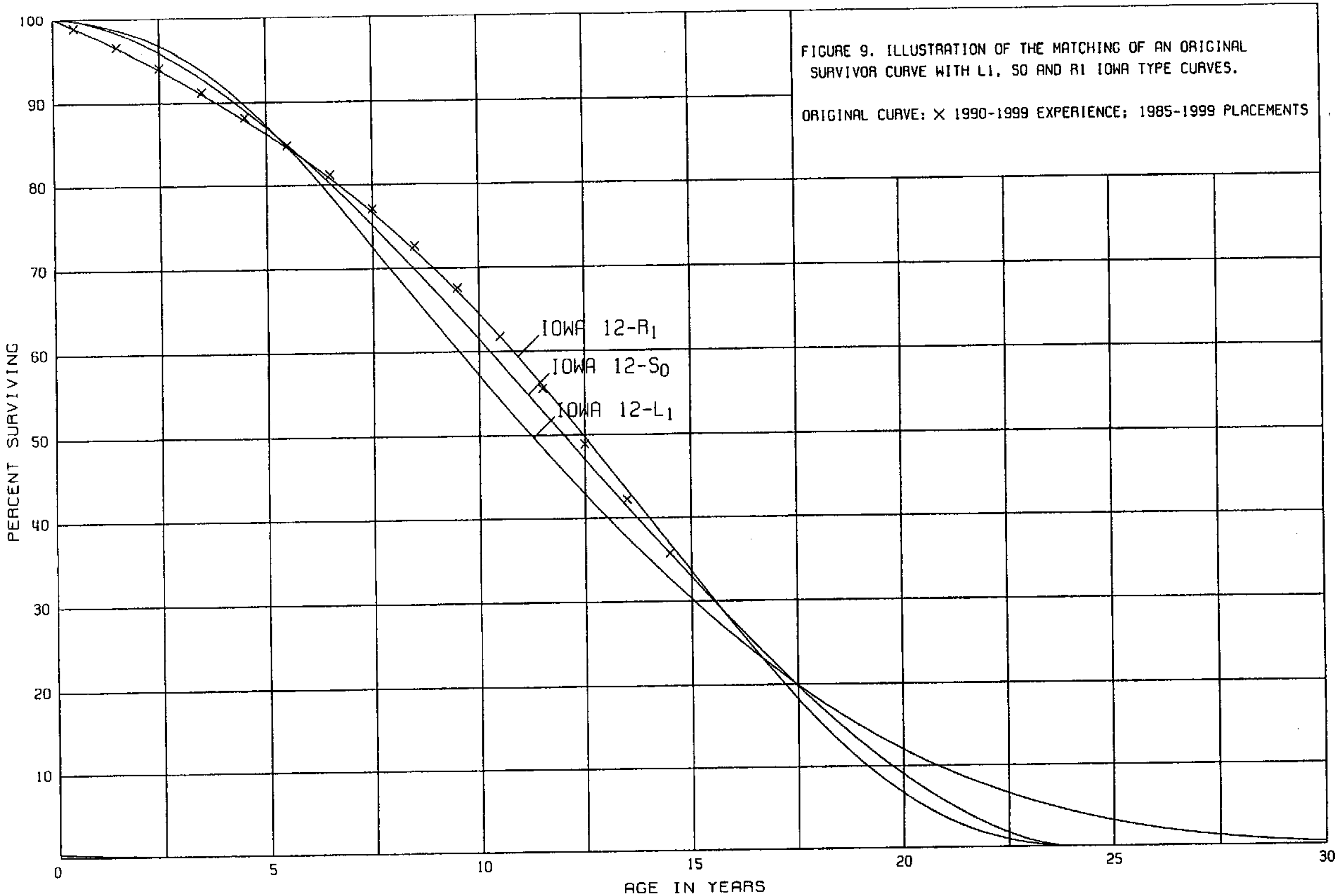

FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH L1, S0 AND R1 IOWA TYPE CURVES.

ORIGINAL CURVE: × 1990-1999 EXPERIENCE; 1985-1999 PLACEMENTS selected as the most representative of the plotted survivor characteristics of the group, assuming no contrary relevant factors external to the analysis of historical data.

Field Trip

In order to be familiar with the operation of the Company and observe representative portions of the plant, a field trip was conducted for the study. A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements are obtained during field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

The following is a list of the locations visited during this initial field trip.

April 17, 2000

Buffalo Grove Measuring and Regulating Station
Mundelein Operations Facility
Peterson Road Propane Station
Waukegan Office and Service Center

Service Life Considerations

The estimated survivor curve designation for each account indicates the average service life, the family within the Iowa system and the relative height of the mode. For example, the Iowa 55-R3 indicates an average service life of fifty-five years; a Right mode, or R, type curve (the mode occurs to the right of average life for right mode curves); and a medium height, 3, for the mode (possible modes for R type curves range from 0.5 to 5).

The service life estimates were based on judgment which considered a number of factors. The primary factors were the statistical analyses of data, current Company policies and outlook as determined during field reviews of the property and other conversations with management, and the survivor curve estimates from other gas companies.

The estimated survivor curves for most of the mass property accounts are based on statistical analyses of plant accounting data and the range of lives and type curves used for other companies in the gas industry. Account 376.1, Mains, is the largest plant account and is used to illustrate the manner in which the study was conducted for the accounts using the retirement rate method. Aged retirement and other plant accounting data were compiled for the years 1963 through 1999. These data were coded in the course of the Company's normal recordkeeping according to plant account or property group, type of transaction, year in which the transaction took place, and year in which the gas plant was placed in service. The data were analyzed by the retirement rate method of life analysis. The survivor curve chart for the account is presented on page III-27 and the life tables for the two experience bands plotted on the chart follow it.

Typical service lives for the mains of other gas companies range from 50 to 65 years. The Iowa 55-R3 survivor curve is estimated to represent the future, inasmuch as it is a reasonable interpretation of the significant portion of the stub survivor curve through age 50, reflects the outlook of management and is within the typical range of lives for this account.

The second largest account is Account 380, Services. The estimate of survivor characteristics is based on the 1963-1999 and 1974-1999 experience bands. As the survivor curve chart on page III-39 illustrates, both experience bands represent similar life characteristics and support the 37-R2 survivor curve. The 37-year average life is within the 30 to 50-year range of lives used by others in the industry.

The survivor curve estimates for the Transmission Plant accounts are based on judgment that incorporated the estimates of other gas companies and Company outlook. The transmission system is less than 10 years old, an insufficient period for the development of meaningful historical service life indications.

The estimated survivor curves for Accounts 392, Transportation Equipment and 396, Power Operated Equipment, are based on statistical analyses of aged retirements during the periods 1966-1999 and 1994-1999 using the retirement rate method. The 7-L2.5 for Account 392 and the 9-L3 for Account 396 are very good fits of the original survivor curves as shown on pages III-69 and III-83, respectively, and are typical for the equipment in these accounts.

Similar studies were performed for the remaining plant accounts. Each of the judgments represented a consideration of statistical analyses of aged plant activity, management's outlook for the future, and the typical range of lives used by other gas companies.

CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

Group Depreciation Procedures

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

Single Unit of Property

The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a $1,000 unit of property attains an age of four years and has a remaining life expectancy of six years, the annual accrual over the total life is:

$$\frac{\$1{,}000}{(4 + 6)} = \$100 \textit{ per year.}$$

The accrued depreciation is:

$$\$1{,}000\ (1 - \frac{6}{10}) = \$400.$$

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 1999, the book depreciation reserve for each plant function is allocated to accounts and vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation follow. The detailed calculations as of December 31, 1999, are set forth in the Results of Study section of the report.

Average Service Life Procedure

In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life of the vintage is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$Ratio = 1 - \frac{Average\ Remaining\ Life}{Average\ Service\ Life}.$$

III-1

PART III. RESULTS OF STUDY

PART III. RESULTS OF STUDY

QUALIFICATION OF RESULTS

The calculated annual depreciation accrual rates are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and for the change of the composition of property in service. The annual accrual rates were calculated in accordance with the straight line remaining life method of depreciation using the average service life procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

The annual depreciation accrual rates are applicable specifically to the gas plant in service as of December 31, 1999. For most plant accounts or subaccounts, the application of such rates to future balances that reflect additions subsequent to December 31, 1999, is reasonable for a period of five years.

DESCRIPTION OF STATISTICAL SUPPORT

The service life estimates were based on judgment which incorporated statistical analyses of retirement data, discussions with management and consideration of estimates made for other gas utility companies. The results of the statistical analyses of service life are presented in the section titled "Service Life Statistics".

The estimated survivor curves for each account are presented in graphical form. The charts depict the estimated smooth survivor curve and original survivor curve(s),